THE NOMENCLATURE OF SOME AUSTRALIAN LICHENS DESCRIBED AS LECANORA AND PLACODIUM BY MÜLLER-ARGOVIENSIS

by

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ABSTRACT

J. Müller (Müll.Arg.) described a large number of lichens from Australia. When examining specimens in his herbarium it became apparent that some of the material he described as *Lecanora* and *Placodium* was in need of revision. *Placodium flavostramineum* Müll.Arg. is reduced to synonymy with *Dirinaria applanata (Fée) Awasthi. Lecanora connivens* Müll.Arg. and *L. subimmersa* Müll.Arg. (non Vainio) are reduced to synonymy with *L. atra* (Huds.) Ach. while the varieties *L. atra* var. *serialis* Müll. Arg. and *L. atra* var. *virens* Müll.Arg. are considered unworthy of formal taxonomic recognition. The new combinations *Candelariella xanthostigmoides* (Mull.Arg.) R. W. Rogers, *Lecidea glaucoflavens* (Müll.Arg.) R. W. Rogers, *L. hyalinescens* (Müll.Arg.) R. W. Rogers, *Ochrolechia macrosperma* (Müll. Arg.) R. W. Rogers, *Cladonia glaucolivida* (Müll.Arg.) R. W. Rogers, and *Xylographa perminuta* (Mull. Arg.) R. W. Rogers are made. *Lecanora albellaria* Müll.Arg. and *L. glebularis* (Müll.Arg.) Zahlbr. are presented as correct names for two common Australian taxa.

INTRODUCTION

In March 1978 most of the type specimens of the Australian lichens described by J. Müller (Müller-Argoviensis) were examined in Geneva. When examining the many species of *Lecanora* and *Placodium* that Müller-Argoviensis described it became apparent that some specimens were misplaced in those genera, that others were synonyms of well known lichens, and that others represented common Australian taxa for which no satisfactory name was currently in use. These taxa were typified and relevant details concerning the specimens noted. A copy of the notes is lodged in the National Herbarium of Victoria (MEL).

The specimens discussed in this paper were borrowed from Geneva and examined microscopically. All but one were also examined by thin layer chromatography.

TAXA REDUCED TO SYNONYMY

Placodium flavostraminium Müll.Arg. (1895A:29).
Lecanora flavostraminea (Müll.Arg.) Zahlbr. (1928:621)

Typification: *Wilson 331*, on quartz from Victoria (G, holotype). The specimen is a small, closely adnate thallus with marginal lobes.

Chemistry: atranorin and divaricatic acid.

There is no doubt that this is synonymous with *Dirinaria applanata* (Fée) Awasthi, in Awasthi & Agarwal (1970:135).

Lecanora atra var. **serialis** Müll.Arg. (1895B:632).

Typification: *Knight 268*, Thursday Island [Queensland] (G, holotype). The specimen is of scattered areoles mostly in the patterns of the rock surface.

Chemistry: atranorin, alectoronic acid, α-collatolic acid, and phenolics.

Culberson (1969, 1970) and Culberson *et al.* (1977) have documented the chemical variation of *Lecanora atra* (Huds.) Ach. (1810:344) and do not mention the presence of alectoronic acid. Alectoronic acid is similar to α-collatolic acid, and commonly co-occurs with it in other taxa. Such minor variation in chemistry is insufficient to justify formal taxonomic recognition. In addition, the holotype does

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not differ morphologically from *Lecanora atra* var. *atra*. There is no doubt that *L. atra* var. *serialis* cannot be maintained as a distinct variety, but must be placed in synonymy with *Lecanora atra* var. *atra*.

Lecanora atra var. **virens** Müll.Arg. (1882:484)

TYPIFICATION: *Kirton*, Illawarra, N.S.W. on bark (G, lectotype here chosen. This is the only specimen in Geneva annotated by Müll.Arg.). The grey-green colouration of the thallus is insufficient reason to accord varietal status.

CHEMISTRY: atranorin, alectoronic acid and phenolics.

This taxon cannot be maintained as a distinct variety, for reasons discussed under *L. atra* var. *serialis*. It is synonymous with *Lecanora atra* var. *atra*.

Lecanora connivens Müll.Arg. (1891:389)

TYPIFICATION: *Bailey 435*, corticolous, Queensland (G, holotype).

CHEMISTRY: atranorin, alectoronic acid, and phenolics.

The apothecia are unusually concave in early stages, but later flatten to produce a slightly convex disk and slightly irregular margin, characters insufficient to justify taxonomic recognition. There is no doubt that this taxon is synonymous with *Lecanora atra* var. *atra*.

Lecanora subimmersa Müll.Arg. (1893A:124), non *Lecanora subimmersa* Vainio 1890.

As the name *L. subimmersa* Müll.Arg. is a later homonym and therefore invalid it was replaced by *L. brisbanensis* Zahlbr. (1928:400).

TYPIFICATION: *Bailey 93*, on bark, Brisbane (G, holotype).

CHEMISTRY: atranorin.

The specimen has some of the apothecia partly immersed in the thallus, probably due in part to the highly irregular surface on which the thallus is growing. It does not differ in any significant way from *Lecanora atra*. Both *L. subimmersa* Müll.Arg., *nom. inval.*, and *L. brisbanensis* Zahlbr. must be placed in synonymy under *L. atra* var. *atra*.

NEW COMBINATIONS

Candelariella xanthostigmoides (Müll.Arg.) R. W. Rogers, comb. nov.
Lecanora xanthostigmoides Müll.Arg. (1882:484)
Candelaria xanthostigmoides (Müll.Arg.) Müll.Arg. (1893B:33)

TYPIFICATION: *Woolls*, Parramatta N.S.W. (G, lectotype here chosen. This specimen is the more heavily annotated one of the two mentioned by Müll.Arg.); *Sullivan*, Grampians, Victoria (G, syntype).

DESCRIPTION OF LECTOTYPE: *Thallus* a deep yolk-gold crust of scattered granules up to 0.3 mm diameter. *Apothecia* sessile, up to 0.25 mm diameter, with an initially prominent thalline margin which becomes thinner and less prominent, coloured like the thallus; disk more or less plane, deep yolk-gold; asci 8-spored; spores simple, hyaline, 12-15 x 3-4 μm.

Lecidea glaucoflavens (Müll.Arg.) R. W. Rogers, comb. nov.
Lecanora glaucoflavens Müll.Arg. (1893B:39)

TYPIFICATION: *Wilson 457*, Warrnambool, Victoria (G, lectotype here chosen. This is the more copious of the two collections mentioned by Müll.Arg.); *Wilson 711*, Warrnambool, Victoria (G, syntype).

Description of Lectotype: *Thallus* crustose, thin, yellow-green, granular, margin effuse. *Apothecia* sessile, to 1.5 mm diameter, with a distinct pale proper margin when young, less prominent with age; disk flesh-coloured, usually epruinose, plane to slightly convex; paraphyses simple; asci 8-spored; spores simple, hyaline, 18-22 x 9-11 μm.

Chemistry of Lectotype: isoarthothelin, thyringione.

Lecidea hyalinescens (Müll.Arg.) R. W. Rogers, comb. nov.
Lecanora hyalinescens Müll.Arg. (1882:484)

Typification: *White*, Twofold Bay, on bark [N.S.W.] (G, holotype).
Thallus dirty-white to grey, thin, ecorticate. *Apothecia* sessile to somewhat immersed, up to 1 mm diameter; margin white and prominent when young, becoming hyaline and disappearing with age, devoid of algae; disk initially concave, later somewhat convex, pale pinkish-brown to brown; asci 8-spored; spores simple, hyaline, 13-15 x 8-10 μm.

Chemistry: no lichen products were demonstrated by T.L.C.

Ochrolechia macrosperma (Müll.Arg.) R. W. Rogers, comb. nov.
Lecanora macrosperma Müll.Arg. (1893B:40)

Typification: *Wilson 366*, on bark, Lakes Entrance [Victoria] (G, holotype). *Thallus* crustose, white or grey, thick, densely isidiate. *Apothecia* adnate to immersed, c. 1 mm diameter, thalline margin thick and isidiate; disk deeply sunken within the margin, brown, epruinose; paraphyses reticulately branched; asci 8-spored; spores 38-50 x 18-20 μm, simple, hyaline.

Chemistry: perlatolic acid.

Cladonia glaucolivida (Müll.Arg.) R. W. Rogers, comb. nov.
Placodium glaucolividum Müll.Arg. (1891:388)
Lecanora glaucolivida (Müll.Arg.) Zahlbr. (1928:624)

Typification: *Bailey 706*, on soil, Queensland (G, holotype). *Thallus* of squamules up to 1.5 mm across, grey to yellow-grey, usually irregular, sometimes rosette-like, convex or with an ascending tip. *Apothecia* up to 2 mm diameter but usually much smaller, sessile or substipitate, with a well developed margin devoid of algae sometimes disappearing with age; disk brown or pale pinkish-brown, plane becoming somewhat convex, algal layer well developed below the hypothecium; asci 8-spored; spores simple, hyaline, 10-12 x 5-7 μm.

Chemistry: merochlorophaeic acid, 4-0-methylcryptochlorophaeic acid, traces of boninic acid and 2-0-methyl sekikaic acid.

The type specimen is small and poorly developed. However a recent collection (South Nobby, Qld [28°28′S, 153°30′E] on soil on a dry ridge close to the ocean, *Rogers 2394*) shows a fuller development. The short, hollow, corticate podetia could easily be mistaken for a thalloid exciple which would lead to placing the material in the genus *Squamarina* or in *Lecanora*.

Xylographa perminuta (Müll.Arg.) R. W. Rogers, comb. nov.
Lecanora perminuta Müll.Arg. (1893B:39)

Typification: *Wilson 1694*, dead wood, Mt. Macedon [Victoria] (G, holotype). *Thallus* not detectable. *Apothecia* black or very dark brown, minute (0.1-0.2 mm diameter), irregular, with a poorly developed thalline exciple, more or less adnate to the substrate; paraphyses simple; asci 8-spored; spores simple, hyaline, 6-12 x 4-5 μm.

Chemistry: no lichen products were demonstrated by T.L.C.

SPECIES OF SPECIAL INTEREST

Lecanora albellaria Müll.Arg. (1895B:632)

TYPIFICATION: *Knight 423*, on bark, Queensland (G, holotype). *Thallus* white, thin, chinky to granular. *Apothecia* sessile; thalline margin well developed, thick, prominent, entire or slightly irregular; disk sunken, flat to concave, pale pinkish-brown, sometimes becoming hyaline; asci 8-spored; spores 5-7 x 10-13 μm, simple, hyaline.

CHEMISTRY: atranorin, 2-0-methylperlatolic acid.

Similar material is very common on mangroves on the eastern coast of Australia, from Cairns to Sydney.

Lecanora glebularis (Müll.Arg.) Zahlbr. (1928:624).
Placodium glebulare Müll.Arg. (1888:204)

TYPIFICATION: *C. French*, Lake Albacutya, Victoria, on soil (G, holotype). *Thallus* white, areolate, the areolae strongly convex. *Apothecia* 0.5-1.0 mm diameter, solitary and sessile on the areoles; margin prominent, permanent, coloured like the thallus; disk plane or somewhat convex, black, epruinose; asci 8-spored; spores 6-8 x 7-10 μm, simple, hyaline.

CHEMISTRY: atranorin, 2-0-methylperlatolic acid.

Similar material is widespread on soils in semi-arid Victoria, New South Wales and South Australia. All material treated as *Lecanora atra* by Rogers and Lange (1972) is *L. glebularis*. *L. atra* differs chemically (atranorin, alectoronic acid, α-collatolic acid) and also has much larger apothecia which are not born at the apex of almost globular areoles.

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